

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte MICHEL LENOIR, JACKY THENAISIE, and MICHEL FONTENEAU

Appeal No. 2002-0531
Application No. 09/108,687

ON BRIEF

Before RUGGIERO, GROSS, and BARRY, *Administrative Patent Judges*.
BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

A patent examiner rejected claims 2 and 4-9. The appellants appeal therefrom under 35 U.S.C. § 134(a). We affirm.

BACKGROUND

The invention at issue on appeal is a connector featuring a high density of contacts. More specifically, signal contacts 7 and ground contacts 8 are arranged in rows and columns in a housing 6. A detachable wall 11 in the front of the housing features a grid of openings 12, each opening leading to a connection section 13 at one end of each contact. When the wall is secured against the housing, an air chamber 10

is formed within the front of the housing. The connection section extends through the chamber into a recess 23 in the wall. (Appeal Br. at 2-3.) Because air in the chamber forms a dielectric around each connection section, the appellants assert that "impedance between each signal contact and each ground contact is improved. . . ." (*Id.* at 3.)

A further understanding of the invention can be achieved by reading the following claim.

8. A connector with a high density of contacts comprising:

a housing;

a plurality of signal and ground contacts arranged in rows and columns within the housing, each of the signal and ground contacts having a first end, a second end and an intermediate section between the first end and the second end; and

a detachable wall in a front portion of the housing having a grid of entrance openings, each entrance opening leading to a connection section at the first end of each signal and ground contact, wherein when the detachable wall is in a hooked position a first air chamber is formed within the front portion of the housing, the connection sections of the signal and ground contacts extending through the first air chamber into a corresponding recess in an inner side of the front wall at each entrance opening, the first air chamber forming a first dielectric around each connection section and wherein an impedance of each signal contact is improved by the first dielectric.

Claims 2 and 4-9 stand rejected under 35 U.S.C. § 112, ¶ 2, as indefinite. The same claims stand rejected under 35 U.S.C. § 112, ¶ 1, as lacking a written description. Claims 2 and 4-9 also stand rejected under 35 U.S.C. § 103(a) as obvious over U.S.

Patent No. 5,507,655 ("Goerlich"); U.S. Patent No. 5,842,887 ("Andrews"); and U.S. Patent No. 5,890,917 ("Ishida"). Claim 5 also stands rejected under § 103(a) as obvious over Goerlich, Andrews, Ishida, and U.S. Patent No. Re. 36065 ("Andrews Reexam").

OPINION

When claims have been rejected under the first and second paragraphs of 35 U.S.C. § 112, analysis "should begin with the determination of whether the claims satisfy the requirements of the second paragraph." *In re Moore*, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971). Accordingly, our opinion addresses the rejections in the following order:

- indefiniteness rejection
- written description rejection
- obviousness rejections.

A. INDEFINITENESS REJECTION

Rather than reiterate the positions of the examiner or the appellants *in toto*, we address the following points of contention therebetween:

- hooked position
- front portion, connection sections, and entrance opening
- first dielectric
- impedance
- second air chamber
- front wall.

1. Hooked Position

The examiner asserts, "[a]pplicant has not claimed any structure to support the claimed hooked feature." (Examiner's Answer at 8.) The appellants argue, "[o]n page 3, of the specification, line 16, it is stated that 'the front wall is detachably attached to the contact supporting part 15 by means of hooks 18.' Reference is also made to Fig. 1 where the hooks 18 are clearly illustrated." (Reply Br. at 2-3.)

"The test for definiteness is whether one skilled in the art would understand the bounds of the claim when read in light of the specification. *Orthokinetics Inc., v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986). If the claims read in light of the specification reasonably apprise those skilled in the art of the scope of the invention, Section 112 demands no more. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1385, 231 USPQ 81, 94 (Fed. Cir. 1986)." *Miles Labs., Inc. v. Shandon Inc.*, 997 F.2d 870, 875, 27 USPQ2d 1123, 1126 (Fed. Cir. 1993).

Here, claim 8 recites in pertinent part "a detachable wall in a front portion of the housing having a grid of entrance openings . . . wherein when the detachable wall is in a hooked position a first air chamber is formed within the front portion of the housing. . . ." For its part, the appellants' specification explains that the "wall 11 is detachably attached to the contact supporting part 15 by means of hooks 18." (Spec.

at 3) Figure 1 of the specification, moreover, shows the arrangement of the front wall 11, the contact supporting part 15, and the hooks 18. In light of the recitation, the explanation, and the showing, we conclude that one skilled in the art would understand how the detachable wall is hooked to the contact supporting part.

2. Front Portion, Connection Sections, and Entrance Opening

The examiner asserts, "there is no antecedent basis for 'the front portion of the housing' or 'the connection sections,'" (Examiner's Answer at 4), and "there is no antecedent basis for . . . 'each entrance opening.'" (*Id.*) The appellants argue, "[t]he antecedent basis for 'the front portion of housing' . . . is found on line 8 of claim 8 where 'a front portion of the housing' is recited," (Appeal Br. at 6); "[a]ntecedent basis for 'the connection section' is found on line 10, wherein 'a connection section' is recited," (Reply Br. at 3); and "[a]ntecedent basis for 'each entrance opening' can be found in claim 8, lines 8-9 where 'a grid of entrance openings, each entrance opening' is recited. " (Appeal Br. at 7.) We agree with the appellants.

3. First Dielectric

The examiner asserts, "[a]pplicant has not cited any structural features to support the first air gap forming a dielectric." (Examiner's Answer at 4.) Noting that

"[a]ir is known to be a good dielectric material," (Appeal Br. at 9), the appellants argue, "[a]pplicants' specific formation of a 'first air chamber' facilitates the specific formation of the dielectric around the connection section" (Reply Br. at 5.)

"In construing claims, the analytical focus must begin and remain centered on the language of the claims themselves. . . ." *Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1331, 59 USPQ2d 1401, 1406 (Fed. Cir. 2001) (citing 35 U.S.C. § 112, ¶2). Here, claim 8 specifies in pertinent part that a "first air chamber is formed within the front portion of the housing, the connection sections of the signal and ground contacts extending through the first air chamber . . . , the first air chamber forming a first dielectric around each connection section. . . ." The aforementioned assertion that "[a]ir is known to be a good dielectric material," (Appeal Br. at 9), moreover, is uncontested. Because claim 8 specifies that the connection sections pass through the air chamber; and air is a good dielectric, i.e., a good insulator; we conclude that one skilled in the art would understand how that the air chamber insulates the portion of the connecting sections therein.

4. Impedance

The examiner asserts, "[a]pplicant should clarify what is intended by 'an impedance.'" (Examiner's Answer at 4.) The appellants argue, "'[i]mpedance' is a well

known electrical characteristic, and a person skilled in the art would understand what the term 'impedance' means." (Appeal Br. at 9.) The examiner responds that "[i]mpedance is well known in the art." (Examiner's Answer at 8.) Because the appellants and the examiner agree that impedance is a well known property, we conclude that one skilled in the art would understand the claimed "impedance."

5. Second Air Chamber

The examiner asserts, "[f]rom the specification and figures, it does not appear the configuration of the contacts is changed to form the 'second air chamber.'" (Examiner's Answer at 4.) The appellants argue, "[t]he description of this feature can be found on pg. 4, lines 1-10. " (Appeal Br. at 9-10.)

Claim 9 recites in pertinent part "a contact supporting section in the housing including a passageway for each of the signal and ground contacts, and wherein the intermediate section of each signal contact includes a reduced height portion forming a second air chamber in a portion of the passageway. . . ." For its part, the section of the specification referenced by the appellants explains that "impedance can be further improved by a special design of the intermediate sections 22 of the signal contacts 7. . . ." (Spec. at 4.) More specifically, "[a] part of the intermediate section 22 is removed so that air is present as dielectric along this removed length of the

intermediate sections as indicated by 22'. This means that the height of the intermediate section 22 is less than the height of the corresponding passage 16." (*Id.*) Figure 1 of the specification, moreover, shows the arrangement of the intermediate section 22, the removed length 22', and the passage 16. In light of the recitation, the explanation, and the showing, we conclude that one skilled in the art would understand that a part of the intermediate section 22 is removed to form the claimed "second air chamber."

6. Front Wall

The examiner asserts, "there is no antecedent basis for 'the front wall'. . . ." (Examiner's Answer at 4.) The appellants do not contest the merits of the rejection but instead argue, "[a] proposed amendment is being submitted herewith to overcome the rejection of the claim on this ground." (Appeal Br. at 7.) The proposed amendment, however, "has not been entered." (Examiner's Answer at 2.)¹ Therefore, we affirm the indefiniteness rejection of claims 2 and 4-9.

B. WRITTEN DESCRIPTION REJECTION

¹The appellants argue, "the proposed amendment should have been entered. . . ." (Reply Br. at 4.) Such an issue is to be settled by petition to the Director of the U.S. Patent and Trademark Office ("PTO"), however, rather than by appeal to the PTO's Board of Patent Appeals and Interferences. See *In re Hengehold*, 440 F.2d 1395, 1403, 169 USPQ 473, 479 (CCPA 1971).

We address the following points of contention between the examiner and the appellants:

- first dielectric
- second air chamber.

1. First Dielectric

The examiner asserts, "[a]pplicant has not adequately described how the first air chamber 'forms a first dielectric around each connection section and wherein an impedance of each signal contact is improved'. . . ." (Examiner's Answer at 3.) The appellants argue, "[o]n page 3, line 7 [of the specification] it is stated that 'the impedance of the signal contacts 7 is improved by providing the housing 6 with an air chamber 10 at the front side of the connector 2.' The construction of the housing 6 is then described." (Reply Br. at 2.)

"Although [the appellants] do[] not have to describe exactly the subject matter claimed, . . . the description must clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed.'" *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563, 19 USPQ2d 1111, 1116 (Fed. Cir. 1991) (quoting *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989)). "[T]he test for sufficiency of support . . . is whether the disclosure of the application relied upon 'reasonably conveys to the artisan that the inventor had possession at that time of the later claimed

subject matter." *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985) (quoting *In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983)). "Application sufficiency under §112, first paragraph, must be judged as of the filing date [of the application]." *Vas-Cath*, 935 F.2d at 1566, 19 USPQ2d at 1119 (citing *United States Steel Corp. v. Phillips Petroleum Co.*, 865 F.2d 1247, 1251, 9 USPQ2d 1461, 1464 (Fed. Cir. 1989)).

Here, the section of the original specification referenced by the appellants discloses that, "[i]n the female connector 2, the impedance of the signal contacts 7 is improved by providing the housing 6 with an air chamber 10 at the front side of the connector 2." (Spec. at 3.) Furthermore, the assertion that "[a]ir is known to be a good dielectric material," (Appeal Br. at 9), is uncontested. We are persuaded that the disclosure and the knowledge reasonably convey to the artisan that the appellants had possession of the claimed "first dielectric" as of the filing date of their application.

2. Second Air Chamber

The examiner asserts, "[a]pplicant has not adequately described how . . . the 'intermediate section of each signal contact includes a reduced height portion forming a second air chamber.'" (Examiner's Answer at 3.) The appellants argue, "[t]he description of this feature can be found on pg. 4, lines 1-10. " (Appeal Br. at 9-10.)

The section of the original specification referenced by the appellants discloses that "[a] part of the intermediate section 22 is removed so that air is present as dielectric along this removed length of the intermediate sections as indicated by 22'. This means that the height of the intermediate section 22 is less than the height of the corresponding passage 16." (Spec. at 4.) Figure 1 of the original specification, moreover, shows the arrangement of the intermediate section 22, the removed length 22', and the passage 16. We are persuaded that the disclosure and the showing reasonably convey to the artisan that the appellants had possession of the claimed "reduced height portion" as of the filing date of their application.

C. OBVIOUSNESS REJECTIONS

Rather than reiterate the positions of the examiner or the appellants *in toto*, we address a point of contention therebetween. The examiner asserts, "Goerlich disclose a high density connector comprising: a housing [12-14] having a front entrance wall with a grid of entrance openings [20] . . . and - a removable portion [see figure 4] located at the front section of the housing supporting a set of input contacts [44] arranged to correspond to the contacts within the housing at the housing entrance wall." (Examiner's Answer at 5.) The appellants argue, "[w]hat the Examiner refers to as

removable portion in Fig. 4 is, in actuality, a shielded pin contact block. (col. 6, lines 29-33.)" (Appeal Br. at 12.)

In addressing the point of contention, the Board conducts a two-step analysis. First, we construe the representative claim to determine its scope. Second, we determine whether the construed claim would have been obvious.

1. Claim Construction

"Analysis begins with a key legal question -- *what* is the invention *claimed*?" *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1567, 1 USPQ2d 1593, 1597 (Fed. Cir. 1987). Here, claim 8 recites in pertinent part the following limitations: "a housing; a plurality of signal and ground contacts arranged in rows and columns within the housing . . . ; and a detachable wall in a front portion of the housing having a grid of entrance openings. . . ." Focussing on the language of the claim, the limitations require a detachable wall for the front of a housing for contacts.

2. Obviousness Determination

Having determined what subject matter is being claimed, the next inquiry is whether the subject matter would have been obvious. "In rejecting claims under 35 U.S.C. Section 103, the examiner bears the initial burden of presenting a *prima facie*

case of obviousness." *In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993) (citing *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992)). "A *prima facie* case of obviousness is established when the teachings from the prior art itself would . . . have suggested the claimed subject matter to a person of ordinary skill in the art." *In re Bell*, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)).

Here, the examiner equates elements 12, 13, and 14 of Goerlich to the claimed housing, (Examiner's Answer at 5), as aforementioned. For its part, the reference describes these elements as "three substantially wedge-shaped sections 12, 13 and 14," col. 5, ll. 4-5, of "a spring contact block 10. . . ." *Id.* at ll. 1-2.

The examiner then points to Figure 4 of Goerlich to show the claimed "detachable wall." (Examiner's Answer at 5.) Although the Figure may show walls, its walls are not part of the spring contact block 10. To the contrary, "FIG. 4 shows a shielded pin contact block 36 comprising a synthetic material plug body 37. . . ." Col. 6, ll. 29-30.

The examiner does not allege, let alone show, that the addition of Andrews, Ishida, or Andrews Reexam cures the aforementioned deficiency of Goerlich. Absent a teaching or suggestion of a detachable wall for a front of a housing for contacts, we are unpersuaded of a *prima facie* case of obviousness. Therefore, we reverse the obviousness rejections of claim 8 and of claims 2, 4-7, and 9, which fall therewith.

CONCLUSION

In summary, the rejection of claims 2 and 4-9 under § 112, ¶ 2, is affirmed. The rejection of claims 2 and 4-9 under § 112, ¶ 1, however, is reversed. The rejection of claims 2 and 4-9 under § 103(a) is also reversed.

"Any arguments or authorities not included in the brief will be refused consideration by the Board of Patent Appeals and Interferences. . . ." 37 C.F.R. § 1.192(a). Accordingly, our affirmance is based only on the arguments made in the briefs. Any arguments or authorities not included therein are neither before us nor at issue but are considered waived. No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

JOSEPH F. RUGGIERO
Administrative Patent Judge

ANITA PELLMAN GROSS
Administrative Patent Judge

LANCE LEONARD BARRY
Administrative Patent Judge

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CLARENCE A. GREEN

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PERMAN & GREEN
425 POST ROAD
FAIRFIELD, CT 06430